TERMS OF REFERENCE

Job title:	International Consultant to assess and develop proposals for enhancing the framework for the safe operation of the hydro-technical infrastructure in Moldova
Duty station:	Home-based with one mission to Moldova
Project reference:	„Hydro-infrastructure rehabilitation to mitigate vulnerability to climate-driven extreme events in the Republic of Moldova" Project
Contract type:	Individual Contract (IC)
Contract Duration:	20 w.d, February 2025 - June 2025

A. Background Information and Rationale, Project Description

Climate change is projected to increase the occurrence of intense rainfall events in Moldova with potential consequences for damaging flooding, given the country's rolling topography and current land use patterns. The majority of Moldova's rural population lives in small towns located in these watersheds, which are often found in low lying areas and other areas at risk of flooding as a result of heavy rains.

On average, under climate change, rainfall will become (with 66% probability) more frequent, either in absolute terms or as a proportion of total precipitation, that is, less precipitation with a higher proportion of heavy rain events. Potentially damaging and life-threatening river floods are expected to intensify.

Given that over 4,000 small and medium reservoirs and ponds have been constructed, the structural integrity of dams and weirs is therefore critically important in any long-term national climate change adaptation strategy. Most dams were designed in the former Soviet republic using empirical formulas based on the hydrological and climatological conditions of more than 30-40 years ago. As such, no climate change allowances were made during the design of these dams. As well, an unknown number of dams have been built ad hoc by individuals or communities without any proper design and/or permit.[1]

At the same time, the State Hydro-meteorological Service (SHS) monitoring capacities are insufficient to assess local-level hazards and vulnerabilities with sufficient precision, and the current early warning system for flooding is weak. SHS monitoring stations are unevenly distributed, with the vast majority found on the two largest border rivers (Prut and Dniester), leaving the interior under-served. The network of stations cannot adequately detect fluvial and flash flood risk, and hazard maps are out of date. The state institutions - the SHS and the National Authority "Apele Moldovei" (NAAM), which is the successor to the former Agency "Apele Moldovei" - charged with hazard analysis and risk assessments currently lack the technical capacities to carry them out effectively, and they have no hydrological or hydraulic modelling capacities which is limiting the efficient flood forecasting.

[1] The number of dams in Moldova is disputed. Based on some sources there are more than 7,000 dams (ongoing inventory of dams by national experts), while others estimate the number of dams at around 4,000 (General Inspectorate of Emergency Situations).

Compounding vulnerability from the threat of flooding, local governance institutions have insufficient capacities for effective flood risk and water resources planning and management at the sub-basin level. Local governance institutions and community stakeholders lack the organizational and technical capacities to carry out participatory integrated water resource management and flood risk assessment and management. Under the provisions of Water Law No. 272 of 2011, some elements of integrated water resources management at local level have been delegated to sub-basin committees. While sub-basin committees have been established, they meet irregularly, have no long-term strategy for engaging local land users in analysis and planning, and their links with local water users' groups and other land use regulatory institutions are weak or non-existent. Water users' groups lack the support they need to ensure adequate capacities for appropriate maintenance of private and public hydro-infrastructure.

Against this background, the "Hydro-infrastructure rehabilitation to mitigate vulnerability to climate-driven extreme events in the Republic of Moldova" project (as follows – The Project) is proposing a set of measures aimed at strengthening the country's adaptation to climate-driven flood risk through a two-pronged approach. The first will build the essential national hydro-meteorological monitoring and early warning systems, including the institutional capacities to manage and operate them countrywide. The second one, will apply an integrated water resources management (IWRM) approach to 5 key watersheds that will produce knowledge and institutional capacities for rehabilitation of high-risk hydro-technical infrastructure, as well as increased participation by local stakeholders in water governance.

With these measures, the Project will put in place knowledge, capacity, infrastructure, policy, and regulatory frameworks to enable a long-term impact of the country's enhanced capabilities to manage the run-off from extreme climate-driven rainfall events to prevent flooding that causes loss of life and property damage. The following are the project outcomes and outputs of the project:

Outcome 1: Increased capacities of the relevant national and local authorities to respond effectively to extreme water-related events

Output 1.1: Strengthened hydro-meteorological monitoring network for effective river basin management

Output 1.2: Flash-flood/flood forecasting and early warning system established and operational

Outcome 2: Enhanced security of the vulnerable rural population in key watersheds from potential failure of flood control infrastructure

Output 2.1. Methodology, protocol and standards for safe operation of hydro-technical infrastructure developed

Output 2.2: High risk dams identified in 5 pilot sites, conditions analyzed, and remedial measures identified with priority high risk dams rehabilitated

Outcome 3: Enhanced capacity of the local authorities and empowered community stakeholders to participate actively in governance of integrated water resources management for flood control

Output 3.1: Flood risk and water resources planning and management instruments are available and put at use at the local level

The project will have several categories of target groups such as, firstly, the local population from the pilot areas who are directly exposed to the flood-related hazards, namely, those living in floodplain areas or having agricultural land and/or economic activities in these areas.

Another target group is the local public authorities from the selected pilot regions. As custodians of the hydro-technical infrastructure, they bear the responsibility to ensure proper operation and maintenance in order to mitigate the flood risks.

The next target group of the project is the central public authorities such as the Ministry of Environment with its subordinated institutions, that is, the NAAM and the SHS who will benefit from instruments and knowledge to better understand the flood-related risks, prevent, and prepare for these.

The project duration is from December 2023 through November 2027.

B. Scope of the work, Duties and Responsibilities

Hydro-technical infrastructure plays a critical role in managing water resources and mitigating flood risks. Ensuring the safety and structural integrity of such infrastructure is essential for protecting the environment and safeguarding public welfare.

In the Republic of Moldova, mechanisms are in place to regulate the construction, repair, reconstruction, and decommissioning of hydraulic structures, including dams and flood defenses. The recently approved Code on Urban Planning and Construction No. 434/2023, which will come into effect in January 2025, represents a significant step forward in strengthening the legal framework for hydro-technical infrastructure management.

However, the estimated number of dams in the country ranges between 4,000 and 7,000, many of which were constructed without proper design documentation or lack essential “passports” or technical records. According to experts, this situation is likely a result of gaps in legislation and weak enforcement of existing laws and regulations.

A key underlying issue is the absence of a clearly defined and well-articulated concept of hydro-technic constructions safety within the national framework. Although a draft "Dam Safety" law was developed to address this gap and align with the provisions of Article 3, paragraph (2), letter b), it was never passed through parliamentary hearings. Consequently, there is a lack of methodologies, standards, and field protocols to ensure the proper maintenance and safety of hydraulic structures. This regulatory deficiency leaves dam owners and operators insufficiently informed or engaged in conducting safety assessments.

Addressing these challenges requires not only enhancing the legal framework but also developing robust methodologies, standards, and field protocols for the maintenance, operation, and safety assessment of hydro-technical infrastructure. These measures are vital for strengthening flood protection and ensuring the sustainable and effective management of water infrastructure.

Furthermore, as part of its commitments under the Association Agreement and its Candidate status, the Republic of Moldova has pledged to align its national legislation with EU standards. This includes the transposition and implementation of the Flood Directive (2007/60/EC) and the Water Framework Directive (2000/60/EC), which emphasize stringent safety measures for hydro-technical infrastructure.

This consultancy directly supports Activity 2.1 of the project, which aims to eliminate any gaps in legislation supporting the safe operation of hydro-technical infrastructure in Moldova and put in place relevant methodologies, protocols, and standards to enhance its safety and resilience. The following actions will be undertaken:

1. Assess the national experience, including legislative and institutional gaps that hinder the safe operation of hydro-technical infrastructure in Moldova.
2. Define and engage with relevant stakeholders a set of norms, methodologies, standards, and protocols for safety assessments, ensuring alignment with international best practices while addressing Moldova’s specific needs.
3. Provide actionable recommendations to strengthen legislative frameworks for hydro-technical infrastructure safe operation.

This assignment specifically pertains to hydro-technical constructions referenced in Article 19^2, paragraph (1), letters (a) and (b) of the Water Law No. 272/2011.

To successfully execute this assignment, the designated Consultant will be provided with a detailed report, prepared in advance by a National Legal Consultant, outlining the current practices and legal framework governing safety operation and assessment for hydro-technical infrastructure in the Republic of Moldova. Furthermore, the Consultant will be assisted by the National Legal Consultant in analyzing the national context, facilitating stakeholder engagement to validate the proposed approach, and formulating actionable recommendations to strengthen the legislative framework for assessing the safety and operational conditions of hydro-technical infrastructure.

Being supervised by the Project Manager and/or Capacity and Hydro-technical Infrastructure Officer, the International Consultant is expected to perform the following tasks:

1. Conducting a comprehensive desk review of Moldova's existing practices and legal framework for hydro-technical infrastructure and safety assessment

1.1 Review the report on Moldova's current practices and legal framework for the operation and assessment of the safety of hydro-technical infrastructure.

1.2 Review the draft "Dam Safety" law to identify strengths, gaps, and areas for improvement. Propose targeted recommendations, as appropriate, to support its adoption and effective implementation.

1.3 Analyze and evaluate the roles, responsibilities, and interactions of key stakeholders, including central public authorities, local public authorities, private entities, and other legal actors involved in operation, and safety assessment of hydro-technical infrastructure.

1.4 Identify critical gaps, inconsistencies, and weaknesses within Moldova's national framework for hydro-technical infrastructure safe operation and assessment.

1.5 Compare Moldova's legal and institutional framework with international best practices, including EU standards and guidelines issued by recognized global organizations.

1.6 Evaluate the feasibility and potential benefits of incorporating modern technologies into the hydro-technical infrastructure safety assessment and monitoring framework.

1.7 Produce and submit a comprehensive preliminary report summarizing the findings of the desk review. The report should include:

- A detailed analysis of legislative and institutional gaps, stakeholder roles, and benchmarking results.
- An initial approach for enhancing Moldova's national framework to ensure the safe operation and assessment of hydro-technical infrastructure.
- A proposed set of methodologies, protocols, and standards tailored to address identified gaps, aligned with EU practices and international standards.

2. Conducting consultation with key stakeholders on the initial approach for enhancing Moldova's national framework for the safe operation and assessment of hydro-technical infrastructure

2.1 Design the agenda, methodology, and supporting materials for an introductory workshop with key stakeholders.

2.2 Develop a professional PowerPoint presentation summarizing the findings of the desk review, including proposed methodologies, protocols, and standards, to facilitate informed and structured discussions.

2.3 Conduct an in-person workshop to present the findings of the desk review and discuss the proposed initial approach for improving Moldova's national framework. Encourage active participation to validate findings and gather diverse perspectives.

2.4 Collect and consolidate feedback obtained during stakeholder consultations into a structured analysis, identifying areas of consensus, divergent views, and actionable recommendations.

2.5 Integrate stakeholder feedback into a refined approach, ensuring alignment with Moldova's national priorities and adherence to international best practices.

2.6 Organize and conduct a virtual validation workshop with stakeholders to present and confirm the final version of the proposed approach, methodologies, protocols, and standards.

3. Refining and submitting the final report on the existing experience and legal framework related to the hydro-technical infrastructure and its safety assessment

3.1 Incorporate the results of stakeholder consultations and workshop discussions into the final report. Ensure the analysis includes an updated set of methodologies, standards, and protocols tailored to Moldova's context and needs.

3.2 Finalize the comprehensive report, summarizing all findings, recommendations, and the refined framework for safe operation and assignment of relevant hydro-technical infrastructure.

The activities and expenses related to the workshop will be supported by the Project.

C. Expected deliverables, tentative timeframe, and other arrangements.

The Consultant is expected to deliver the following outputs as per the below-identified timeline and anticipated workload:

No.	**Deliverables**	Estimate Workdays	**Tentative timeframe**
1	A preliminary report on assessing the national practices and framework for the safe operation of hydro-technical infrastructure in Moldova, as per Task 1.	9 w.d.	By the end of March 2025
2	A report on a country visit to conduct a workshop to present the findings of the desk review and discuss the proposed initial approach for improving Moldova's national framework, as per Task 2.	6 w.d.	By the end of April 2025
2.1	Travel costs associated with 1 (one) mission to Moldova to conduct a workshop to present the findings of the desk review and discuss the proposed initial approach for improving Moldova's national framework, as per Task 2.	-	By the end of April 2025
3	The Final Report on assessing the national practices and framework for the safe operation of hydro-technical infrastructure in Moldova, as per Task 3	5 w.d.	By the end of May 2025

	Total	**20 w.d**	

D. Organizational Setting:

The International Consultant will be assisted by a local consultant and will work under the direct supervision of the UNDP Project Manager and/or Capacity and Hydro-technical Infrastructure Officer. The consultant\ will provide deliverables in English in electronic copies and according to the timeframe from the deliverables table. The Project Manager should approve the deliverables.

E. Financial arrangements:

The financial proposal shall specify a total lump sum amount, and payment terms around specific and measurable (qualitative and quantitative) deliverables (i.e., whether payments fall in instalments or upon completion of the entire contract). Payments are based upon output, i.e., upon delivery of the services specified in TOR. To assist the requesting unit in the comparison of financial proposals, the financial proposal will include a breakdown of this lump sum amount (including the daily fee, taxes, and the number of anticipated working days).

Duty Travel

All envisaged travel costs must be included in the financial proposal (Annex 2, Breakdown of Cost, Section A, Duty Travel). This includes all travels/missions to Chisinau/ Moldova. In general, UNDP should not accept travel costs exceeding those of an economy class ticket. Should the IC wish to travel on a higher class he/ she should do so using their own resources. In the case of unforeseeable travel, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between the respective business unit and Individual Consultant, prior to travel and will be reimbursed.

The travel costs to Moldova shall be indicated separately in the offer and will be paid only if the travel will take place. Please note that the mission may be considered only when it is confirmed to be safe for staff, consultant, stakeholders.

The exact duration and period of the missions shall be coordinated with UNDP.

For the purpose of estimation of services' costs, the expected number of missions to Chisinau/Moldova is 1 (one) visit as per deliverable nr. 2, and the total number of mission days is up to 3 (three) days.

Confidentiality

Materials provided to the Consultant and all proceedings within the consultancy contract shall be regarded as confidential, both during and after the consultancy. Violation of confidentiality requirements may result in immediate termination of the contract.

F. Qualifications and Skills Required

Qualifications:

- Master's degree in the field of Civil engineering, with a focus on hydrotechnical engineering, environmental engineering, or similar. PhD in relevant fields will be an advantage.

Experience:

- A minimum of 10 experience in the field of water resource management, hydro-technical constructions safety, as well as flood risk management.
- A minimum of 5 years of proven experience in policy development and revision of normative acts related to water resource management and hydro-technical structures safety. This experience should include conducting comparative regulatory and institutional analyses, aligning national frameworks with EU and international standards, and contributing to the implementation of environmental projects in relevant fields.
- Prior experience in work within UNDP, UNEP, WB, and/or EU-funded projects or other international organizations would be an asset.

Competencies:

- In-depth knowledge of safety assessment, maintenance, and monitoring practices for hydro-technical infrastructure.
- Strong understanding of EU directives and international standards related to hydro-technical infrastructure safety, along with experience in their implementation within national frameworks.
- Proven analytical and report-writing skills, including conducting gap analyses, formulating policy recommendations, and developing detailed regulatory frameworks.
- Excellent interpersonal and communication skills, with a demonstrated ability to collaborate with public and private sector stakeholders.
- Proven ability to work under pressure and meet tight deadlines.
- Fluency in English (oral and written) is required. Knowledge of Romanian or Russian would be an asset.

The United Nations in Moldova is committed to workforce diversity. Women, persons with disabilities, Roma and other ethnic or religious minorities, persons living with HIV, as well as refugees and other non-citizens legally entitled to work in the Republic of Moldova, are particularly encouraged to apply.

G. Documents to be included when submitting the proposals

Interested individual consultants must submit the following documents/ information to demonstrate their qualifications:

- CV, including information about experience in similar assignments and contact details for at least three referees;
- Brief description of why the individual considers him/herself as the most suitable for the assignment, focusing on experience in similar assignments, and brief methodology on how he/she will approach and conduct the work;
- Offeror's Letter confirming Interest and Availability with financial proposal (in USD, specifying the total lump sum amount). Financial proposal template prepared in compliance with the template in Annex 2.

Important notice:

The applicants who have the statute of Government Official / Public Servant prior to appointment will be asked to submit the following documentation:

- a no-objection letter in respect of the applicant received from the Government, and;

- the applicant is certified in writing by the Government to be on official leave without pay for the entire duration of the Individual Contract.

A retired government official is not considered in this case a government official, and as such, may be contracted.

H. Evaluation

Initially, individual consultants will be short-listed based on the following minimum qualification criteria:

- Master's degree in the field of Civil engineering, with a focus on hydro-technical engineering, environmental engineering, or similar. PhD in relevant fields will be an advantage.
- A minimum of 10 experience in the field of water resource management, hydro-technical construction safety, as well as flood risk management.
- A minimum of 5 years of proven experience in policy development and revision of normative acts related to water resource management and hydro-technical structures safety. This experience should include conducting comparative regulatory and institutional analyses, aligning national frameworks with EU and international standards, and contributing to the implementation of environmental projects in relevant fields.

The award of the contract shall be made to the individual consultant if the technical and financial offers have been evaluated and determined as responsive, compliant, and acceptable.

The short-listed individual consultants will be further evaluated based on the following methodology:

Cumulative analysis

The award of the contract shall be made to the individual consultant whose offer has been evaluated and determined as:

a) responsive/ compliant/ acceptable, and

b) having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

* Technical Criteria weight – 60% (300 pts);

* Financial Criteria weight – 40% (200 pts).

Only candidates obtaining a minimum of 210 points would be considered for the Financial Evaluation.

The individual consultants will be evaluated based on the following qualification criteria:

Criteria	**Scoring**	**Maximum Points Obtainable**
Technical		
Master's degree in the field of Civil engineering, with a focus on hydro-technical engineering, environmental engineering, or similar	*Master's degree – 10 pts, Ph.D.'s degree – 20 pts*	20
At least 10 years of proven professional experience in the field of water resource management, hydro-technical construction safety, as well as flood risk management	*10 years – 30 pts, each additional year of experience – 10 pts, up to a maximum of 60 pts*	60

A minimum of 5 years of proven experience in policy development and revision of normative acts related to water resource management and hydro-technical structures safety.	*5 years – 20 pts, each additional year of experience – 10 pts, up to a maximum of 50 pts*	50
Subtotal desk review Scoring – 130 pts.		
Interview (demonstrated technical knowledge and experience; communication/ interpersonal skills; initiative; creativity/ resourcefulness). **Only the first 5 applicants that have accumulated the highest technical score shall be invited to the interview.**		
In-depth knowledge of safety assessment, maintenance, and monitoring practices for hydro-technical infrastructure	*Limited – up to 20 pts, good – up to 40 pts, excellent – up to 50 pts*	
Strong understanding of EU directives and international standards related to hydro-technical infrastructure safety, along with experience in their implementation within national frameworks	*Limited – up to 20 pts, good – up to 40 pts, excellent – up to 50 pts*	165
Proven analytical and report-writing skills, including conducting gap analyses, formulating policy recommendations, and developing detailed regulatory frameworks	*Limited – up to 5 pts, good – up to 10 pts, excellent – up to 20 pts*	
Excellent interpersonal and communication skills, with a demonstrated ability to collaborate with public and private sector stakeholders	*Limited – up to 5 pts, good – up to 10 pts, excellent – up to 15 pts*	
Proven ability to work under pressure and meet tight deadlines	*Limited – up to 5 pts, good – up to 10 pts, excellent – up to 15 pts*	
Fluency in English is a must. Knowledge of Romanian or Russian is desired	*Each language - 5 pts, up to 15 pts*	
Belonging to the group(s) under-represented in the UN Moldova and/or the area of assignment*	*No – 0 pts, to one group – 2.5 pts, to two or more groups – 5 pts*	5
Subtotal interview – 170 pts.		
Maximum Total Technical Scoring		300

**Under-represented group in the area of assignment are persons with disabilities, LGBTI, ethnic and linguistic minorities, especially ethnic Gagauzians, Bulgarians, Roma, Jews, people of African descent, people living with HIV, religious minorities, especially Muslim women, refugees, and other non-citizens.*

Financial	
Evaluation of submitted financial offers will be done based on the following formula: **S = Fmin / F * 200** **S – score received on financial evaluation** **Fmin –** the lowest financial offer out of all the submitted offers qualified over the technical evaluation round **F – financial offer under consideration**	200

Winning candidate

The winning candidate will be the candidate who has accumulated the highest aggregated score (technical scoring + financial scoring).